

New Zealand Climate Summary: April 2017Issued: 4 May 2017

# Tropical moisture brings prolific rainfall to the North Island and eastern South Island

|  |  |
| --- | --- |
| **Rainfall** | Prolific rainfall totals were observed across nearly the entire North Island, with more than twice the normal April rainfall (>200%) recorded in the large majority of locations. Amounts exceeding three times the April normal (>300%) were also observed in several places. In the North Island, only northern and western Northland received near normal rainfall (80-119% of normal). The northern and eastern South Island also received widespread rainfall in excess of 200% of the April normal, with a couple of locations picking up more than 300% of normal April rainfall. Conversely, much of the West Coast saw near normal (80-119% of normal) to above normal (120-149% of normal) rainfall. Meanwhile, much of Southland and Queenstown-Lakes received below normal rainfall (50-79% of April normal). |
| **Temperature** | The majority of the North Island experienced well above average (>1.20°C above average) or above average (0.51 to 1.20°C above average) temperatures in April. Isolated locations in the central and southern North Island, as well as the northern and eastern South Island, recorded near average (-0.50 to 0.50°C of average) temperatures. Temperatures were primarily well above average (>1.20°C above average) or above average (0.51 to 1.20°C above average) in the western and southern South Island. |
| **Soil Moisture** | As of 1 May 2017, soils across most of the North Island were much wetter than normal for the time of year. In the South Island, soils were much wetter than normal in most of the north and east. However, much drier than normal soils were located across Queenstown-Lakes District and much of Southland. |
| **Sunshine** | Near normal (90-109% of normal) to below normal (75-89% of normal) sunshine hours were recorded for most locations around New Zealand, while isolated areas of well below normal (<75% of normal) sunshine were observed in the lower North Island and in Central Otago. Isolated above normal (110-125% of normal) sunshine was recorded in the western North Island. |

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## Overview

April 2017 was characterised by higher than normal atmospheric pressure to the south and southeast of the South Island, along with lower than normal atmospheric pressure over and to the north of the North Island. This pressure pattern resulted in more northeasterly wind flow than normal, bringing with it moist tropical air masses and record-high rainfall for parts of the North Island. These tropical air masses also delivered very warm temperatures to much of the North Island. This pattern also led to a very wet month for the northern and eastern South Island, but at the same time sheltering the West Coast and far south with drier conditions and warm temperatures for the time of year.

Widespread heavy rainfall was the flavour of the month for the majority of the North Island along with the north and east of the South Island. Most locations received the bulk of their April rainfall during two distinct events; the passage of the remnants of Cyclone Debbie during 4-5 April and the arrival of ex-Cyclone Cook during 12-13 April. These storms both brought heavy rain and flooding to much of the North Island and parts of the South Island. Cook also brought high winds to the eastern North Island, resulting in downed trees and power outages. The impacts of these significant rainfall events are covered in more detail in the *Highlights and Extreme Events* section.

Nearly the entire North Island along with the northern and eastern South Island received significant amounts of rain in April. In these regions, more than double the normal rainfall for April (>200% of April normal) was widespread, with some locations receiving more than three times (>300%) their normal rainfall for the month. Notably, Whangaparaoa (north of Auckland) received an incredible 452% of normal April rainfall (319 mm). A multitude of locations around the country either broke or nearly broke rainfall records for April (see Rainfall section on Page 4). In the North Island, only northern and western Northland did not receive well above normal rainfall. There, amounts were near normal (80-119% of normal). In the South Island, the West Coast saw near normal (80-119% of normal) to above normal (120-149% of normal) rainfall. The heavy rainfall in the north and east of the South Island was due to the predominant northeasterly airflow during the month, along with the heavy rainfall from Cook tracking right along the east coast. Conversely, high pressure and the blocking of moist air by mountain ranges led to below normal rainfall (50-79% of April normal) for Queenstown-Lakes District and much of Southland.

With north-northeasterly winds and tropical air masses moving across the North Island, temperatures were well above average (>1.20°C above average) or above average (0.51 to 1.20°C above average) across most of the Island in April. In fact, at 2.3 °C above average, Te Puke had its warmest April since records began there in 1973. Across the whole North Island, only a few locations in Waikato and Wellington had near average (-0.50 to 0.50°C of average) temperatures. Locations in the northern and eastern South Island generally recorded near average (-0.50 to 0.50°C of average) temperatures in April, while temperatures were primarily well above average (>1.20°C above average) or above average (0.51 to 1.20°C above average) along the West Coast and in Otago and Southland. This temperature division across the South Island was primarily due to northeasterly airflows warming as they travelled down the western (lee) side of the mountain ranges, in a phenomenon known as the foehn effect. The nationwide average temperature in April 2017 was 14.0°C (0.7°C above the 1981-2010 April average from NIWA’s seven station temperature series which begins in 1909).

Soil moisture levels across New Zealand at the end of April generally reflected the rainfall pattern seen during the month. Soils across most of the North Island were much wetter than normal for the time of year, with slightly wetter than normal soils in parts of the central and northeastern North Island. In the South Island, soils were much wetter than normal in most of the north and east. However, much drier than normal soils were located across Queenstown-Lakes and much of Southland, while soil moisture was generally near normal along much of the West Coast.

Sunshine was generally near normal (90-109% of normal) to below normal (75-89% of normal) for most locations around New Zealand, consistent with moist air masses that brought cloudy and rainy conditions to much of the country. However, onshore northeasterly airflows also produced isolated areas of well below normal (<75% of normal) sunshine in the Wellington region and also Central Otago. Isolated above normal (110-125% of normal) sunshine was recorded in the western North Island.

**Further Highlights:**

* The highest temperature was 30.3°C, observed at Fernhill (Hawke’s Bay) on 2 April.
* The lowest temperature was -2.9°C, observed at Manapouri on 7 April.
* The highest 1-day rainfall was 186.0 mm, recorded at Te Puke on 4 April.
* The highest wind gust was 156 km/hr, observed at Brothers Island (Cook Strait) on 30 April.
* Of the six main centres in April 2017, Tauranga was the wettest and sunniest, Christchurch was the coolest and least sunny, Auckland was the warmest, and Dunedin was the driest.
* Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2017 (1 January – 30 April) were Whakatane (953.3 hours), Lake Tekapo (916.1 hours), Blenheim (898.2 hours) and Richmond (886.9 hours).

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## Rainfall: Record rainfall in the North Island, dry in the far south.

The arrival of the remnants of Debbie (4-5 April) and Cyclone Cook (12-13 April) were the driving forces behind very heavy rainfall across nearly the entire North Island as well as the northern and eastern South Island during April. This led to record-high or near-record-high rainfall totals in numerous locations around New Zealand. Whangaparaoa (north of Auckland) received an incredible 452% of normal April rainfall (319 mm). This was the wettest April on record for Whangaparaoa, after also experiencing its wettest March on record the previous month. It was also the wettest April for Te Puke in Bay of Plenty with 477 mm of rain (332% of April normal) and Martinborough in Wairarapa, which recorded 174 mm (346% of April normal). These rainfall events caused significant flooding and slips, which are covered in the *Highlights and Extreme Events* section below.

Conversely, April was a dry month for much of the lower South Island due to persistent high pressure and more northeasterly airflow than normal. Milford Sound had its fourth-driest April on record with 220 mm of rain (41% of April normal), while Invercargill received only 49 mm of rain (51% of April normal).

**Record[[1]](#footnote-2) or near-record April rainfall totals were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Rainfall total (mm)** | **Percentage of normal** | **Year records began** | **Comments** |
| High records or near-records | | | | |
| Warkworth | 322 | 302 | 1966 | Highest |
| Whangaparaoa | 319 | 452 | 1946 | Highest |
| Te Puke | 477 | 332 | 1973 | Highest |
| Taupo | 249 | 368 | 1949 | Highest |
| Lower Retaruke | 284 | 267 | 1966 | Highest |
| Martinborough | 174 | 346 | 1924 | Highest |
| Hawera | 234 | 281 | 1977 | Highest |
| Ohakune | 230 | 212 | 1961 | Highest |
| Waiouru | 207 | 268 | 1950 | Highest |
| Whitianga | 396 | 260 | 1961 | 2nd-highest |
| Matamata | 306 | 380 | 1951 | 2nd-highest |
| Taupo | 211 | 312 | 1949 | 2nd-highest |
| Hamilton (Ruakura) | 254 | 304 | 1905 | 2nd-highest |
| Dannevirke | 224 | 299 | 1951 | 2nd-highest |
| Waione | 164 | 296 | 1991 | 2nd-highest |
| Palmerston North | 192 | 320 | 1928 | 2nd-highest |
| Levin | 193 | 240 | 1895 | 2nd-highest |
| Stratford | 334 | 229 | 1960 | 2nd-highest |
| Waipara West | 163 | 290 | 1973 | 2nd-highest |
| Akaroa | 296 | 441 | 1977 | 2nd-highest |
| Kaikohe | 319 | 228 | 1956 | 3rd-highest |
| Leigh | 236 | 286 | 1966 | 3rd-highest |
| Whakatane | 309 | 252 | 1952 | 3rd-highest |
| Rotorua | 356 | 317 | 1963 | 3rd-highest |
| Motu | 338 | 233 | 1920 | 3rd-highest |
| Auckland (Mangere) | 202 | 238 | 1959 | 3rd-highest |
| Te Kuiti | 257 | 247 | 1950 | 3rd-highest |
| Taumarunui | 270 | 253 | 1913 | 3rd-highest |
| Masterton | 193 | 340 | 1926 | 3rd-highest |
| Takapau Plains | 234 | 320 | 1962 | 3rd-highest |
| Hastings | 153 | 225 | 1965 | 3rd-highest |
| Palmerston North | 187 | 271 | 1928 | 3rd-highest |
| Upper Hutt | 222 | 275 | 1924 | 3rd-highest |
| Whanganui (Spriggens Park) | 208 | 301 | 1890 | 3rd-highest |
| Oamaru | 154 | 414 | 1941 | 3rd-highest |
| Auckland (Western Springs) | 215 | 230 | 1948 | 4th-highest |
| Whitianga | 369 | 243 | 1961 | 4th-highest |
| Turangi | 241 | 211 | 1968 | 4th-highest |
| Masterton | 192 | 339 | 1926 | 4th-highest |
| Gisborne | 231 | 238 | 1905 | 4th-highest |
| Wairoa | 294 | 230 | 1964 | 4th-highest |
| Wellington (Kelburn) | 230 | 271 | 1928 | 4th-highest |
| Wellington (Airport) | 187 | 273 | 1958 | 4th-highest |
| Whanganui (Airport) | 205 | 286 | 1890 | 4th-highest |
| Takaka | 346 | 222 | 1976 | 4th-highest |
| Kaikoura | 263 | 428 | 1898 | 4th-highest |
| Dunedin (Musselburgh) | 136 | 268 | 1918 | 4th-highest |
| Low records or near-records | | | | |
| Manapouri | 123 | 38 | 1971 | 3rd-lowest |
| Milford Sound | 220 | 41 | 1929 | 4th-lowest |

## Temperature: Warm in much of the North Island, parts of the South Island.

Much of the North Island experienced a warmer than usual April, primarily due to north-northeasterly winds and tropical air masses moving across the island. Many locations recorded well above average (>1.20°C above average) or above average (0.51 to 1.20°C above average) mean air temperatures. In fact, at 2.3 °C above average, Te Puke had its warmest April since records began there in 1973. Several other locations recorded near-records for high mean temperature, high mean maximum temperature, and high mean minimum temperature, indicative of northerly winds bringing warm air from the tropics, along with cloudy nights that prevented heat from escaping into the atmosphere. Across the whole North Island, only a few locations in Waikato and Wellington had near average (-0.50 to 0.50°C of average) mean temperatures in April. Locations in the northern and eastern South Island generally recorded near average (-0.50 to 0.50°C of average) temperatures in April, while temperatures were primarily well above average (>1.20°C above average) or above average (0.51 to 1.20°C above average) along the West Coast and in Otago and Southland. This temperature division across the South Island was primarily due to northeasterly airflows warming as they travelled down the western (lee) side of the mountain ranges, in a phenomenon known as the foehn effect.

The nationwide average temperature in April 2017 was 14.0°C (0.7°C above the 1981-2010 April average from NIWA’s seven station temperature series which begins in 1909).

**Record or near-record mean air temperatures for April were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Mean**  **air temp. (oC)** | **Departure from normal (oC)** | **Year records began** | **Comments** |
| High records or near-records | | | | |
| Te Puke | 16.9 | 2.3 | 1973 | Highest |
| Whangarei | 18.3 | 1.7 | 1967 | 2nd-highest |
| Whatawhata | 16.9 | 2.2 | 1952 | 2nd-highest |
| Hanmer Forest | 13.6 | 3.0 | 1906 | 2nd-highest |
| Kerikeri | 18.0 | 1.6 | 1945 | 3rd-highest |
| Mokohinau Island | 19.0 | 1.3 | 1994 | 3rd-highest |
| Motu | 13.8 | 2.7 | 1990 | 3rd-highest |
| Hastings | 16.1 | 1.8 | 1965 | 3rd-highest |
| Arapito | 14.9 | 1.5 | 1978 | 3rd-highest |
| Kaitaia | 18.6 | 1.7 | 1948 | 4th-highest |
| Whitianga | 17.0 | 1.7 | 1962 | 4th-highest |
| Pukekohe | 16.8 | 1.3 | 1969 | 4th-highest |
| Hicks Bay | 17.6 | 1.6 | 1969 | 4th-highest |
| Waiouru | 11.6 | 2.2 | 1962 | 4th-highest |
| Secretary Island | 13.9 | 1.3 | 1985 | 4th-highest |
| Motueka | 14.2 | 1.5 | 1956 | 4th-highest |
| Low records or near-records | | | | |
| None observed |  |  |  |  |

**Record or near-record mean maximum air temperatures for April were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Mean maximum**  **air temp. (oC)** | **Departure from normal (oC)** | **Year records began** | **Comments** |
| High records or near-records | | | | |
| Te Puke | 21.6 | 1.7 | 1973 | Highest |
| Hanmer Forest | 21.4 | 3.7 | 1906 | Highest |
| Whitianga | 21.9 | 1.7 | 1962 | 2nd-highest |
| Rotorua | 19.5 | 1.8 | 1964 | 2nd-highest |
| Motu | 18.9 | 2.8 | 1990 | 2nd-highest |
| Waiouru | 16.6 | 2.3 | 1962 | 2nd-highest |
| Secretary Island | 16.8 | 1.3 | 1985 | 2nd-highest |
| Whatawhata | 21.6 | 2.0 | 1952 | 3rd-highest |
| Franz Josef | 18.5 | 2.3 | 1953 | 3rd-highest |
| Tiwai Point | 16.2 | 1.7 | 1970 | 4th-highest |
| Low records or near-records | | | | |
| Takaka | 17.2 | -1.5 | 1978 | 3rd-lowest |

**Record or near-record mean minimum air temperatures for April were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Mean minimum**  **air temp. (oC)** | **Departure from normal (oC)** | **Year records began** | **Comments** |
| High records or near-records | | | | |
| Kaikohe | 13.9 | 1.7 | 1973 | 2nd-highest |
| Whangarei | 14.7 | 2.0 | 1967 | 2nd-highest |
| Mokohinau Island | 17.3 | 1.5 | 1994 | 2nd-highest |
| Cape Reinga | 15.9 | 1.5 | 1951 | 3rd-highest |
| Kaitaia | 15.1 | 2.1 | 1948 | 3rd-highest |
| Kerikeri | 13.9 | 2.2 | 1945 | 3rd-highest |
| Dargaville | 14.0 | 1.9 | 1943 | 3rd-highest |
| Leigh | 15.9 | 1.3 | 1966 | 3rd-highest |
| Auckland (Whenuapai) | 13.0 | 2.0 | 1945 | 3rd-highest |
| Auckland (Airport) | 14.2 | 1.5 | 1959 | 3rd-highest |
| Whatawhata | 12.1 | 2.4 | 1952 | 3rd-highest |
| Roxburgh | 7.9 | 3.5 | 1950 | 3rd-highest |
| Auckland (Henderson) | 13.7 | 2.8 | 1948 | 4th-highest |
| Whitianga | 12.5 | 2.2 | 1962 | 4th-highest |
| Te Puke | 12.2 | 2.8 | 1973 | 4th-highest |
| Hastings | 11.2 | 2.3 | 1965 | 4th-highest |
| Farewell Spit | 12.9 | 2.1 | 1971 | 4th-highest |
| Secretary Island | 11.0 | 1.4 | 1985 | 4th-highest |
| Akaroa | 10.1 | 2.1 | 1978 | 4th-highest |
| Oamaru | 8.4 | 1.3 | 1967 | 4th-highest |
| Lumsden | 5.8 | 1.3 | 1982 | 4th-highest |
| Nugget Point | 8.9 | 1.3 | 1970 | 4th-highest |
| South West Cape | 9.6 | 1.1 | 1991 | 4th-highest |
| Low records or near-records | | | | |
| Kaikoura | 7.8 | -2.1 | 1963 | 3rd-lowest |

## Sunshine: Near or below normal sunshine for many.

Sunshine was generally near normal (90-109% of normal) to below normal (75-89% of normal) for most locations around New Zealand, consistent with moist air masses that brought cloudy and rainy conditions to much of the country. However, onshore northeasterly airflows also produced isolated areas of well below normal (<75% of normal) sunshine in the Wellington region and also Central Otago. In Tasman, Takaka recorded its 3rd-lowest April sunshine total on record. Isolated above normal (110-125% of normal) sunshine was recorded in the western North Island, however.

Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2017 (1 January – 30 April) were Whakatane (953.3 hours), Lake Tekapo (916.1 hours), Blenheim (898.2 hours) and Richmond (886.9 hours).

**Record or near-record April sunshine hours were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Sunshine hours** | **Percentage of normal** | **Year records began** | **Comments** |
| High records or near-records | | | | |
| None observed |  |  |  |  |
| Low records or near-records | | | | |
| Takaka | 139 | 75 | 1985 | 3rd-lowest |

## 

## April climate in the six main centres

April 2017 temperatures were well above average for Tauranga and Hamilton, above average for Auckland and Dunedin, and near average for Wellington and Christchurch. All centres recorded well above normal rainfall, with Auckland experiencing its 3rd-highest April rainfall on record, while Wellington and Dunedin both had their 4th-highest April rainfalls. In addition, the Hamilton suburb of Ruakura had its 2nd-highest April rainfall on record with 254 mm. Wellington and Christchurch experienced well below normal sunshine, while the other main centres recorded near normal sunshine. Of the six main centres in April 2017, Tauranga was the wettest and sunniest, Christchurch was the coolest and least sunny (although it was missing one day of sunshine data), Auckland was the warmest, and Dunedin was the driest.

**April 2017 main centre climate statistics:**

|  |  |
| --- | --- |
| **Temperature** | |
| **Location** | **Mean temp. (oC)** | **Departure from normal (oC)** | **Comments** |
| Aucklanda | 17.4 | 1.2 | Above average |
| Taurangab | 16.9 | 1.3 | Well above average |
| Hamiltonc | 15.5 | 1.3 | Well above average |
| Wellingtond | 14.2 | 0.5 | Near average |
| Christchurche | 12.4 | 0.5 | Near average |
| Dunedinf | 12.6 | 0.9 | Above average |
| **Rainfall** | |
| **Location** | **Rainfall (mm)** | **% of normal** | **Comments** |
| Aucklanda | 202 | 238 | Well above normal (3rd-highest) |
| Taurangab | 293 | 243 | Well above normal |
| Hamiltonc | 205 | 234 | Well above normal |
| Wellingtond | 230 | 271 | Well above normal (4th-highest) |
| Christchurche | 157 | 354 | Well above normal |
| Dunedinf | 136 | 268 | Well above normal (4th-highest) |
| **Sunshine** | |
| **Location** | **Sunshine (hours)** | **% of normal** | **Comments** |
| Aucklanda | 167 | 103 | Near normal |
| Taurangab | 192 | 104 | Near normal |
| Hamiltong | 176 | 107 | Near normal |
| Wellingtond | 114 | 70 | Well below normal |
| Christchurche | 112[[2]](#footnote-3) | 69 | Well below normal |
| Dunedinf | 123 | 98 | Near normal |  |

*a Mangere b Tauranga Airport c Hamilton Airport d Kelburn e Christchurch Airport f Musselburgh g Ruakura*

## Highlights and extreme events

### Rain and slips

From 4-5 April, the remnants of Debbie impacted primarily the North Island, causing widespread flooding and damage.

On 4 April, a mud slip slammed into an apartment building in the Kohimarama suburb of Auckland. Initially two people were feared to be missing, but they were quickly accounted for. In Whanganui and Rangitikei a state of emergency was declared due to heavy rain and the threat of flooding on the Whanganui River. Schools were also closed on 5 April due to the state of emergency.

On 5 April, significant impacts were felt around the Auckland region due to the heavy rainfall. A slip in Titirangi blocked a shared driveway which trapped five families inside their homes, while power was knocked out to around 2000 homes, mainly in St. Heliers, Orakei, and Grey Lynn. In New Lynn, the Great North Road-Clark Street intersection was closed by floodwaters, as an underground culvert had been damaged by heavy rainfall in March. Trains were suspended between Pukekohe and Papakura due to a slip, with service replaced by buses. All Gulf Harbour ferries were also replaced by buses. A cliff in Auckland’s Torbay partially collapsed from underneath homes, and trees, fences and gardens fell into the sea. The Maraetai and Clevedon areas of Auckland that were hit by floods in early March were again cut off by the flooded Wairoa River. In addition, a Maori cemetery was submerged underwater at Okahu Bay in the Auckland suburb of Orakei.

Elsewhere on 5 April, more than 170 schools and early childcare centres were closed across the North Island, mostly in the Manawatu-Whanganui Region, while 150 students were stranded at a school camp near Port Waikato. Evacuation of about 200 flood-prone homes in Whanganui was underway, while riverfront areas of Whanganui city closed to the public in preparation for possible flood peak on the night of 5 April. Eleven people who evacuated their homes in the Bay of Plenty town of Taneatua were trapped in their cars by floodwaters. Flooding occurred in Papamoa, Bay of Plenty, while ten to fifteen properties were evacuated in Owhiro (near Wellington) as a nearby stream burst its banks. In addition, water restrictions were put in place for all of Ruapehu District due to flooding and poor water quality in rivers where water is taken for the supply of townships. On the evening of 5 April, Wellington Airport suspended all flights as its air traffic instruments were affected by the poor weather. Several incoming flights were diverted to Auckland and Christchurch. Airport operations resumed on the morning of 6 April.

On the morning of 6 April, the entire township of Edgecumbe in Bay of Plenty (about 1600 people) was evacuated due to rising water on the Rangitaiki River. After a stopbank failure, floodwaters reached as high as 1.5 metres in the town, and boats were used to help evacuate residents. About 170 residents were able to return home on 14 April. However, some homes in the township may not be habitable until Christmas.

On 6 April, flow on the Rangitaiki River was measured as high as 700 cubic metres per second. Several towns in the Whakatane District were cut off by flooding and slips, including Ruatahana, Minginui, Waimana, and Ruatoki. SH 2 through the Waioeka Gorge was closed due to a slip and a road washout. In Taranaki, about 1600 properties in the towns of Urenui, Opunake, and Manaia lost power. Kaikoura was completely cut off as all roads into the town were closed by slips. The Hakarimata Summit hiking track in Waikato was closed due to rain damage.

During the event, the following major roads were closed due to flooding and/or slips: SH 15 from Karaka Road to Opouteke Road, SH 56 at Opiki, SH 3 from Awakino Tunnel to Tongaparutu, SH 1 near Motutere, Taupo, SH 25 near Kuaotunu, SH 1 south of Kaikoura, SH 4 between Raetihi and Fields Track, and SH 25 between Thames and Coromandel, where more than 100 slips occurred. Caution was advised for many other roads that experienced minor flooding or slips.

Some statistics about the 4-5 April rain event follow:

In the 14 hours between 4 pm on 4 April and 6 am on 5 April, Auckland (Mangere) recorded 84.6 mm of rain. The normal rainfall for the entire month of April is 84.6 mm.

Whangaparaoa, north of Auckland, observed 172 mm of rain between 9.00 am 4 April and 9.00 am 5 April, or 2.4 times (240%) the normal April rainfall in just 24 hours.

The storm brought 164 mm of rain to Tauranga, or 135% of the April normal.

Whakatane had its wettest April day on record (since 1952) on the 4th with 137 mm of rain.

Te Puke in the Western Bay of Plenty recorded 290 mm of rain from the event. This is two times (200%) the normal April rainfall in just four days.

Whitianga on the Coromandel Peninsula observed 150 mm of rain on the 4th, good for the wettest April day on record (since 1961).

Wellington (Airport) recorded 72 mm in one day between 9.00 am on the 5th and 9.00 am on the 6th, making it the wettest day at the airport in about 9 years, or since April 30-May 1, 2008.

Kaikoura observed 155 mm of rain from the storm, or 2.8 times (280%) the normal rainfall for the entire month of April.

Akaroa on Banks Peninsula recorded 200 mm from the storm, or nearly 3 times (300%) the normal rainfall for all of April.

April’s second major weather event occurred from the 12th to the 14th, as Cook struck New Zealand after moving through New Caledonia. A “predecessor rain event” arrived on 12 April ahead of Cook, spreading heavy rain across much of the upper North Island.

A state of emergency was declared in Bay of Plenty on 11 April ahead of the approaching storm, with a state of emergency also declared in Thames-Coromandel on 12 April. All schools in Whakatane, Kawerau, and Opotiki districts were closed on 12 April. In the Auckland region, all train service between Papakura and Pukekohe was suspended due to flooding. On the evening of 12 April, Kerikeri had 75.8 mm of rain in only two hours, or just over half the amount normally received during all of April.

On 13 April, Cook approached the upper North Island and made landfall near Whakatane. Thames-Coromandel Civil Defence evacuated everyone from low-lying areas in advance of the storm, and requested that no one visit the Coromandel Peninsula during and shortly after the event. During the storm, several slips and downed trees closed SH 25 between Tararu and Preece Point, while diversions were put in place on SH 29 due to slips in the Kaimai Range. Additional road closures occurred on SH 2 between Napier and Wairoa, on SH 1 south of Kaikoura, and the Motueka Valley Highway 20 km north of Tapawera.

On 13 April, schools in the eastern Bay of Plenty were closed, and schools in the western Bay of Plenty were asked to close by 1 pm. In addition, coastal areas of Whakatane were evacuated due to the threat of storm surge and coastal inundation, and about 120 people stayed at the Whakatane evacuation centre. The New Zealand Defence Force also placed at least 500 personnel, along with aircraft and trucks on standby to assist with storm response. Several flights from Auckland to regional airports in the North Island and upper South Island were also cancelled.

Heavy rain associated with Cook on the night of 13-14 April caused flooding along the Heathcote and Avon Rivers in Christchurch.

On 30 April, heavy rain caused several slips along SH 3 in Taranaki.

The highest 1-day rainfall was 186.0 mm, recorded at Te Puke on 4 April. However, numerous stations experienced their wettest or near-wettest April day on record during the month.

**Record or near-record April extreme 1-day rainfall totals were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme 1-day rainfall (mm)** | **Date of extreme rainfall** | **Year records began** | **Comments** |
| Warkworth | 137 | 4th | 1967 | Highest |
| Whangaparaoa | 172 | 4th | 1946 | Highest |
| Auckland (North Shore) | 111 | 12th | 1966 | Highest |
| Whitianga | 161 | 4th | 1961 | Highest |
| Te Puke | 186 | 4th | 1973 | Highest |
| Whakatane | 137 | 4th | 1952 | Highest |
| Rotorua | 137 | 4th | 1964 | Highest |
| Auckland (Mangere) | 86 | 4th | 1959 | Highest |
| Pukekohe | 84 | 4th | 1944 | Highest |
| Whatawhata | 120 | 4th | 1952 | Highest |
| Te Kuiti | 109 | 4th | 1957 | Highest |
| Turangi | 88 | 4th | 1968 | Highest |
| Takapau Plains | 84 | 4th | 1962 | Highest |
| Waiouru | 64 | 4th | 1950 | Highest |
| Waipara West | 65 | 5th | 1973 | Highest |
| Kerikeri | 134 | 12th | 1945 | 2nd-highest |
| Auckland (Western Springs) | 82 | 4th | 1948 | 2nd-highest |
| Whitianga | 150 | 4th | 1961 | 2nd-highest |
| Taupo | 97 | 4th | 1949 | 2nd-highest |
| Hamilton (Ruakura) | 81 | 4th | 1907 | 2nd-highest |
| Hamilton | 74 | 4th | 1935 | 2nd-highest |
| Lower Retaruke | 71 | 4th | 1967 | 2nd-highest |
| Waione | 49 | 4th | 1991 | 2nd-highest |
| Matamata | 88 | 12th | 1951 | Equal 2nd-highest |
| Kaikohe | 110 | 4th | 1956 | 3rd-highest |
| Taupo | 81 | 4th | 1949 | 3rd-highest |
| Auckland (Airport) | 78 | 4th | 1959 | 3rd-highest |
| Hastings | 73 | 4th | 1967 | 3rd-highest |
| Waiouru | 59 | 4th | 1950 | 3rd-highest |
| Akaroa | 122 | 5th | 1977 | 3rd-highest |
| Whangarei | 91 | 12th | 1943 | 4th-highest |
| Leigh | 85 | 4th | 1967 | 4th-highest |
| Taumarunui | 96 | 4th | 1913 | 4th-highest |
| Masterton | 60 | 4th | 1926 | 4th-highest |
| Hawera | 45 | 5th | 1977 | 4th-highest |
| Dunedin (Musselburgh) | 56 | 12th | 1918 | 4th-highest |

### Temperatures

The highest temperature was 30.3°C, observed at Fernhill (Hawke’s Bay) on 2 April. The lowest temperature was -2.9°C, observed at Manapouri on 7 April. Many of the month’s warmest maximum temperatures occurred on the 2nd or 3rd, due to northwesterly foehn winds ahead of the remnants of Debbie. Similarly, many of the warmest minimum temperatures occurred on the night of the 4th, with a tropical air mass located over New Zealand.

**Record or near-record daily maximum air temperatures for April were recorded at:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Location** | **Extreme maximum (°C)** | **Date of extreme temperature** | | **Year records began** | **Comments** |
| High records or near-records | | | | | |
| Mokohinau Island | 24.5 | 3rd | 1994 | | Highest |
| Rotorua | 25.1 | 3rd | 1964 | | Highest |
| Motu | 25.7 | 2nd | 1990 | | Highest |
| Gisborne | 29.7 | 2nd | 1905 | | Highest |
| Hastings | 30.1 | 2nd | 1965 | | Highest |
| Wairoa | 28.8 | 2nd | 1964 | | Highest |
| Mahia | 26.5 | 2nd | 1990 | | Highest |
| Secretary Island | 23.8 | 13th | 1985 | | Highest |
| Whitianga | 26.8 | 3rd | 1962 | | 2nd-highest |
| Ngawi | 25.0 | 2nd | 1972 | | 2nd-highest |
| Gisborne | 28.5 | 2nd | 1905 | | 2nd-highest |
| Cheviot | 29.2 | 2nd | 1982 | | 2nd-highest |
| Le Bons Bay | 24.7 | 2nd | 1984 | | 2nd-highest |
| Kaitaia | 26.8 | 2nd | 1948 | | 3rd-highest |
| Paeroa | 26.6 | 3rd | 1947 | | 3rd-highest |
| Te Puke | 26.0 | 3rd | 1973 | | 3rd-highest |
| Rotorua | 24.0 | 3rd | 1964 | | 3rd-highest |
| Auckland (Mangere) | 26.1 | 3rd | 1959 | | 3rd-highest |
| Waiau School | 28.7 | 2nd | 1974 | | 3rd-highest |
| Wanaka | 24.4 | 1st | 1955 | | 3rd-highest |
| Auckland (Whenuapai) | 26.2 | 3rd | 1945 | | Equal 3rd-highest |
| Whitianga | 26.1 | 3rd | 1962 | | Equal 3rd-highest |
| Taupo | 24.4 | 3rd | 1949 | | Equal 3rd-highest |
| Kaitaia | 26.1 | 2nd | 1948 | | 4th-highest |
| Five Rivers | 23.8 | 1st | 1982 | | 4th-highest |
| Queenstown | 24.5 | 1st | 1871 | | Equal 4th-highest |
| Lauder | 26.0 | 1st | 1924 | | Equal 4th-highest |
| Low records or near-records | | | | | |
| Oamaru | 8.3 | 30th | 1972 | | 3rd-lowest |
| Winchmore | 7.4 | 6th | 1928 | | 4th-lowest |

**Record or near-record daily minimum air temperatures for April were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme minimum (°C)** | **Date of extreme temperature** | **Year records began** | **Comments** |
| High records or near-records | | | | |
| Cape Reinga | 19.9 | 3rd | 1971 | Highest |
| Kerikeri | 21.0 | 5th | 1952 | Highest |
| Kaikohe | 19.6 | 4th | 1973 | Highest |
| Whangarei | 20.9 | 4th | 1967 | Highest |
| Mokohinau Island | 20.7 | 4th | 1994 | Highest |
| Whangaparaoa | 19.9 | 4th | 1982 | Highest |
| Auckland (Whenuapai) | 20.0 | 4th | 1951 | Highest |
| Port Taharoa | 19.5 | 3rd | 1974 | Highest |
| Mahia | 17.9 | 3rd | 1990 | Highest |
| Secretary Island | 15.9 | 1st | 1988 | Highest |
| Auckland (Airport) | 20.6 | 4th | 1961 | Equal highest |
| Kaitaia | 20.4 | 4th | 1948 | 2nd-highest |
| Whangarei | 20.5 | 4th | 1967 | 2nd-highest |
| Leigh | 20.5 | 4th | 1966 | 2nd-highest |
| Hastings | 18.2 | 13th | 1972 | 2nd-highest |
| Hawera | 17.2 | 13th | 1977 | 2nd-highest |
| Ohakune | 15.8 | 3rd | 1972 | 2nd-highest |
| Hicks Bay | 19.0 | 3rd | 1972 | Equal 2nd-highest |
| Auckland (North Shore) | 20.8 | 4th | 1994 | 3rd-highest |
| Auckland (Henderson) | 20.2 | 4th | 1971 | 3rd-highest |
| Auckland (Western Springs) | 20.2 | 12th | 1971 | 3rd-highest |
| Whitianga (Airport) | 19.3 | 4th | 1971 | 3rd-highest |
| Whitianga | 19.3 | 3rd | 1971 | 3rd-highest |
| Auckland (Mangere) | 20.1 | 12th | 1961 | 3rd-highest |
| Paeroa | 19.4 | 4th | 1971 | Equal 3rd-highest |
| Palmerston North | 17.5 | 13th | 1940 | Equal 3rd-highest |
| Te Puke | 18.6 | 12th | 1973 | 4th-highest |
| Taupo | 16.6 | 3rd | 1950 | 4th-highest |
| Waiouru | 13.9 | 12th | 1972 | 4th-highest |
| Puysegur Point | 15.5 | 27th | 1978 | 4th-highest |
| Te Anau | 13.7 | 2nd | 1973 | 4th-highest |
| Motueka | 16.2 | 13th | 1972 | Equal 4th-highest |
| Queenstown | 14.8 | 2nd | 1871 | Equal 4th-highest |
| Low records or near-records | | | | |
| None observed |  |  |  |  |

### Wind

On 13 April, Air New Zealand suspended operations at Tauranga Airport due to the arrival of Cook, while inbound flights into New Plymouth were cancelled which then affected departure flights.

In the Bay of Plenty, SH 34 between Edgecumbe and Te Teko was closed due to fallen power lines, as was SH 30 between Thornton Road and Awakeri. On the evening of 13 April, most if not all of Whakatane, Te Puke, Opotiki, and Waimana lost power as Cook arrived.

High winds associated with Cook hit Gisborne and Hawke’s Bay on the night of 13-14 April, bringing down many trees. About 13,000 homes in Hawke’s Bay were without power as high winds brought down trees and power lines, and lines company Unison said the damage to its power network was “severe”. Twelve Spark cell towers were down and another 16 on battery backup across Bay of Plenty, Gisborne and Hawke’s Bay.

On the morning of 14 April, several flights into and out of Wellington Airport were delayed and a couple of flights were also cancelled.

On 30 April, a storm hit the lower North Island which brought damage to Wellington. Trains on the Hutt Valley Line between Petone and Wellington were replaced by buses after balustrades along the waterfront were damaged. Marine Drive was closed temporarily as large waves dumped logs and debris on the road. Power was cut to more than 1300 homes in Lower Hutt. In Brooklyn, a power line came down, damaging three vehicles. Strong winds also forced a Jetstar flight from Auckland to Wellington to return to Auckland. In Taranaki, 44 homes lost power in Hawera.

The highest wind gust was 156 km/hr, observed at Brothers Island (Cook Strait) on 30 April.

**Record or near-record April extreme wind gusts were recorded at:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location** | **Extreme wind gust (km/hr)** | **Date of extreme gust** | **Year records began** | **Comments** |
| Te Puke | 67 | 13th | 1987 | Highest |
| Whakatane | 117 | 13th | 1974 | Highest |
| Motu | 111 | 13th | 1991 | Highest |
| Hawera | 100 | 30th | 1986 | Highest |
| Oamaru | 96 | 17th | 1984 | Highest |
| Lauder | 122 | 28th | 1981 | Highest |
| Napier | 100 | 13th | 1973 | 2nd-highest |
| Levin | 98 | 6th | 1971 | 2nd-highest |
| Mt Kaukau | 152 | 30th | 1969 | 2nd-highest |
| Paeroa | 96 | 4th | 1991 | Equal 2nd-highest |
| Wanaka | 80 | 28th | 1992 | Equal 2nd-highest |
| Baring Head | 141 | 30th | 1991 | 3rd-highest |
| Cape Campbell | 109 | 6th | 1963 | 3rd-highest |
| Tauranga | 87 | 13th | 1973 | 4th-highest |
| Gisborne | 89 | 13th | 1972 | Equal 4th-highest |
| Whanganui | 87 | 30th | 1977 | Equal 4th-highest |

**Lightning and hail**

On 17 April, a thunderstorm brought walnut-sized hail to Gisborne.

**Cloud and fog**

On 3 April, thick fog shrouded Auckland city. However, there were clear skies over Auckland Airport so there were no flight disruptions.

On 13 April, cloud and fog cancelled or delayed some flights out of Wellington Airport.

On 14 April, a flight out of Queenstown was cancelled due to low cloud.

**Snow and Ice**

A cold southerly brought light snowfall to locations above about 700 metres in the South Island on 30 April, including ski areas such as Cardrona, Coronet Peak, The Remarkables, and Mt Hutt. Accumulations were generally around 5 cm.

**For further information, please contact:**

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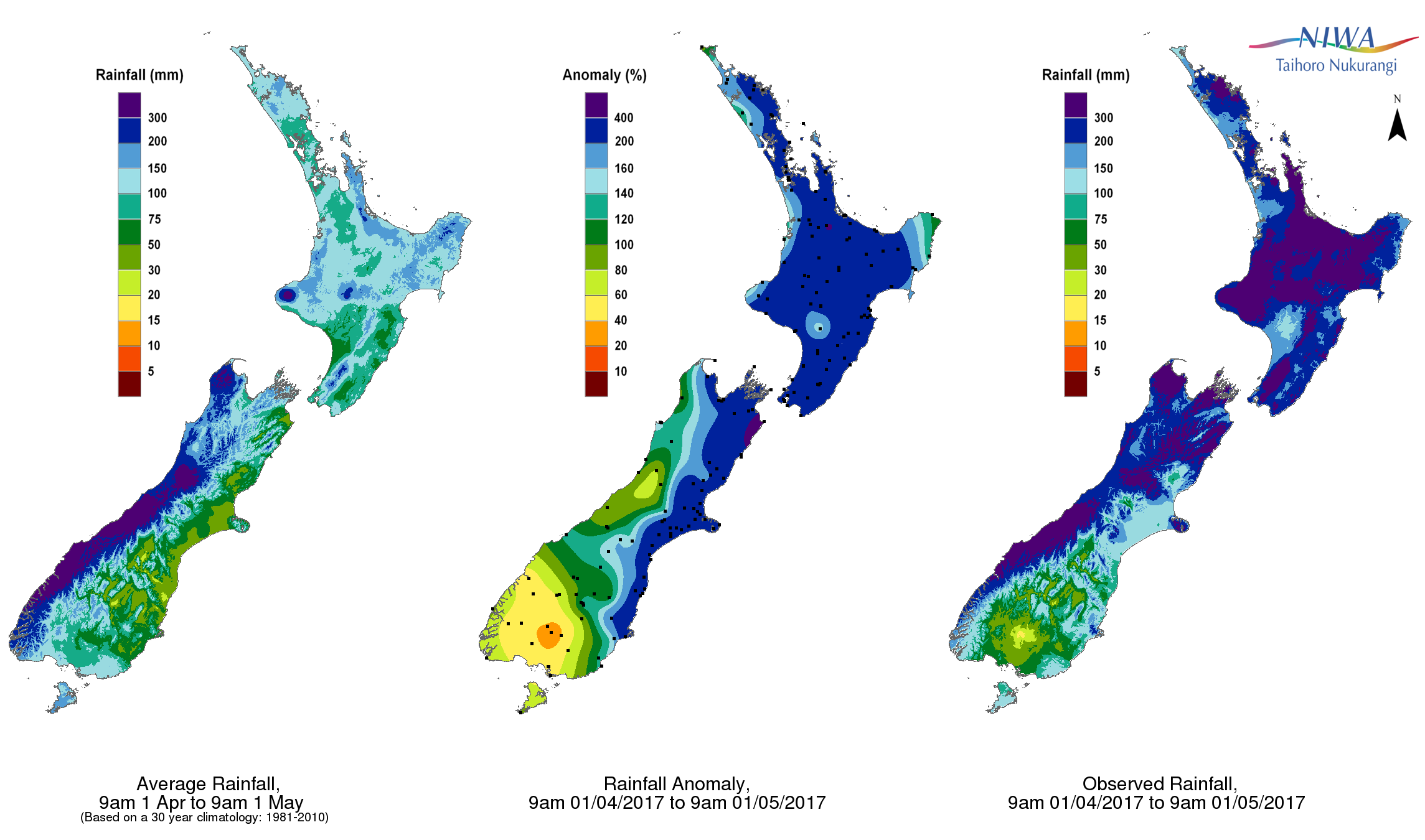
Tel. 09 375 6335, Mobile 027 886 0014

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*April 2017 mean rainfall, expressed as percentage of the 1981-2010 normal.*

*April 2017 was characterised by very heavy rainfall events in the North Island and eastern South Island which caused significant flooding and slips. Some areas received over three times (>300%) the normal April rainfall. The southwest of the South Island generally experienced below normal rainfall (50-79% of April normal).*

<https://www.niwa.co.nz/our-science/climate>

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1. The rankings (1st, 2nd, 3rd.etc) in all Tables in this summary are relative to climate data from a *group* of nearby stations, some of which may no longer be operating. The current climate value is compared against all values from any member of the group, without any regard for homogeneity between one station’s record, and another. This approach is used due to the practical limitations of performing homogeneity checks in real-time. [↑](#footnote-ref-2)
2. 1 day missing [↑](#footnote-ref-3)